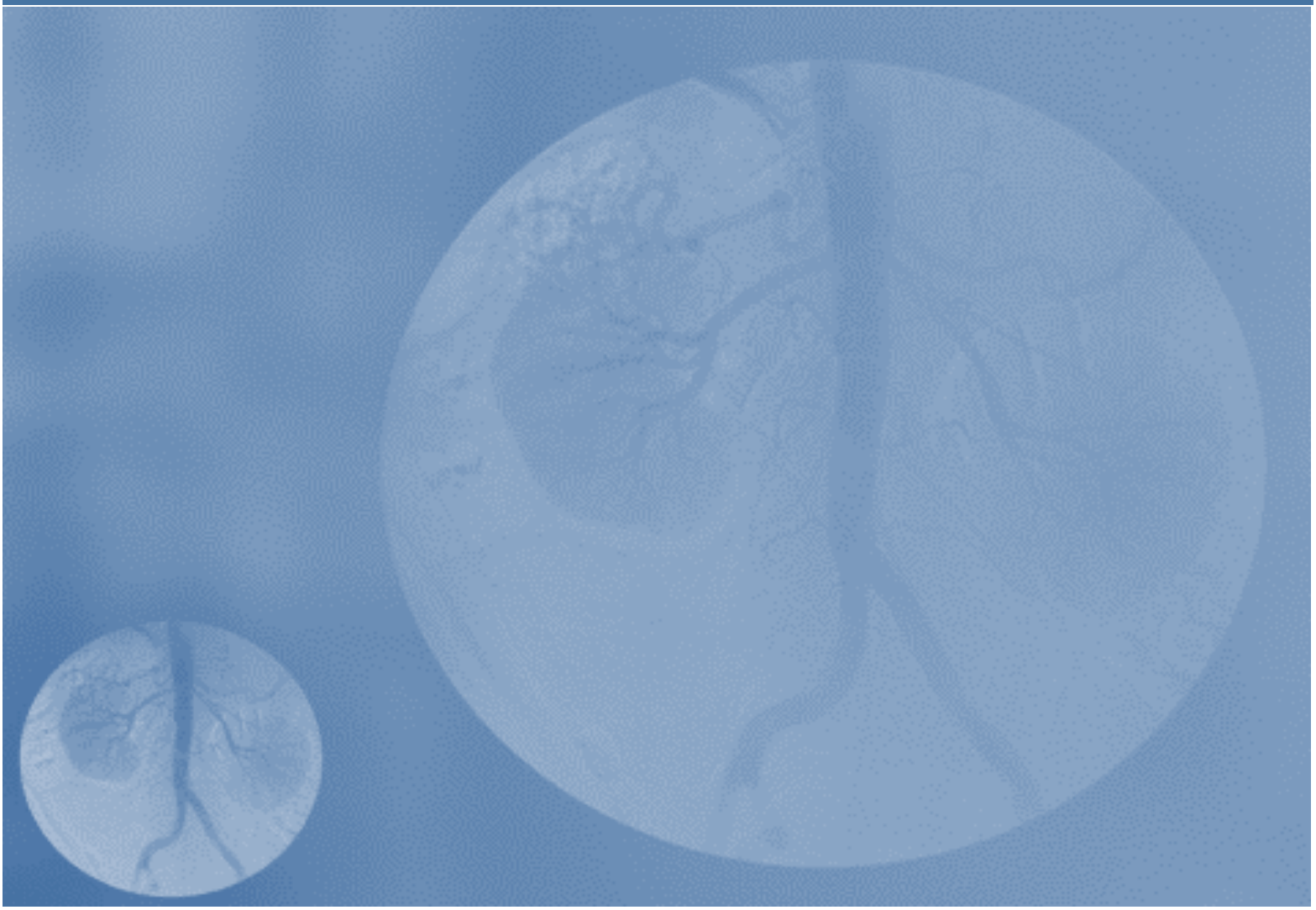
Addressing Kidney Disease in Texas

A Blueprint for Action



KIDNEY ALLIANCE OF TEXAS

January 2016

Preface

The Texas Chronic Kidney Disease Task Force held its final meeting on August 30, 2013. This group of dedicated professionals representing the medical community, academia, leading kidney health organizations, laboratories, insurance carriers, patients, caregivers, and public health, volunteered their time and expertise for six years on behalf of Texans with kidney disease. Through their leadership and collaboration with other stakeholders, the Task Force was successful in advancing public policy and research, improving kidney health quality measures, and increasing awareness of kidney disease and the importance of early detection and treatment. Noteworthy among their many accomplishments:

- Enactment of legislation requiring laboratories performing serum creatinine tests on persons 18 years and older to automatically calculate and report their estimated glomerular filtration rate (eGFR), a measure of kidney function.
- Funding through riders to the General Appropriations Act in successive biennia (80th Texas Legislature, 2007; 81st Texas Legislature, 2009; 82nd Texas Legislature, 2011; 83rd Texas Legislature, 2013) to continue and expand the Love Kidneys campaign.
- Funding through a rider to the General Appropriations Act (81st Texas Legislature, 2009) to conduct a study to estimate the prevalence of chronic kidney disease (CKD) in Texas, the first state level study of its kind in the nation.
- Partnering to improve quality care measures relating to timely testing of albuminuria to identify early kidney disease in diabetes patients; prescribing angiotensin converting enzyme inhibitors (ACE-I) and/or angiotensin receptor blocking agents (ARB) to slow progression of kidney disease in patients with diabetes and hypertension; and increasing the use of arteriovenous (AV) fistula as the first choice of access for individuals who elect hemodialysis.
- A series of webinars targeted to primary care physicians and their staff describing the magnitude of CKD in the US and Texas, step-by-step actions to detect, manage and treat kidney patients, and the importance of co-management with nephrology, cardiovascular, pharmacy and other specialty areas.
- Numerous state, community-based, and national presentations for healthcare professionals, patients, and the general public designed to improve the understanding, detection and treatment of kidney disease.

The Kidney Alliance of Texas shall carry forward the work of the CKD Task Force and establish its own agenda to protect and serve Texans affected by kidney disease.

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Current Situation Analysis

The Problem

Chronic kidney disease (CKD) is an urgent public health problem worldwide and particularly in the United States where an estimated 30,000,000 or 14% of the adult population have some form of kidney disease.[1] Millions more are at risk but remain unaware. CKD is common, harmful, and manageable, yet it is under-diagnosed and under-treated resulting in poor outcomes and excessive costs. Its complications include premature death from cardiovascular disease (CVD), increased all-cause mortality, acute kidney injury, metabolic disorders, increased prevalence of comorbid conditions, and progression to end-stage renal disease (ESRD), necessitating costly renal replacement therapy.[2,3]

CKD and ESRD impose a tremendous public health burden, costing the US healthcare system billions of dollars each year. Together they consume almost 25% of the Medicare budget, with hemodialysis patients noted as the most expensive population in the Medicare system.[4] Costs for kidney disease care range from $23,000 per year for patients in early stages of CKD up to $88,000 per year for each patient receiving hemodialysis.[5,6] At the end of 2012, more than 640,000 people were receiving renal replacement therapy at total costs approximating $51.3 billion.[7] Texas has the largest number of ESRD patients among all states at 56,587 or 9% of the US ESRD population, and its prevalence continues to trend upward.[8]

ESRD patient counts and costs are tracked by the Centers for Medicare and Medicaid Services from their first service date and by treatment modality, as Medicare is the primary payer for renal replacement therapy. Earlier stages of CKD have multiple payers and lack a centralized system to quantify and follow patients. CKD prevalence is generally estimated from population-based studies, such as the National Health and Nutrition Examination Survey (NHANES). It is difficult, however, to assess its full impact for a number of reasons, including: (1) lack of awareness and recognition of CKD; (2) limited use of clinical practice guidelines to detect and diagnose kidney disease; and (3) its interactive relationship with other chronic diseases.

Lack of Awareness and Recognition of CKD

Early detection and treatment of CKD can prevent or delay progression to kidney failure and reduce premature death and disability from its many complications.[9,10] Awareness and recognition of kidney disease among the public, at-risk patients, and many healthcare providers, however, is low, resulting in missed opportunities to prevent poor outcomes.[1-3,9] Early stages of CKD usually do not have signs or symptoms and may go unnoticed until the disease is well advanced. Studies including NHANES and the Kidney Early Evaluation Program (KEEP) have revealed a lack of awareness even among patients with advancing disease and the

presence of comorbid conditions.[11,12,13] In the 1999-2004 NHANES, for example, only 8% and 41% of CKD stage 3 and 4 patients, respectively, were aware that they had kidney disease.[2,11] Similar studies have shown a lack of understanding of the severity of CKD even among patients under the care of a nephrologist.

Low levels of CKD awareness among primary care physicians (PCP) have been well documented.[2,4,9,11] Many patients with known risk factors and clinical markers are not being evaluated for kidney disease nor are they properly coded in databases that quantify CKD patients by stage.[4,11,14,15] In a large cohort of managed care patients, only 14% of subjects with a baseline eGFR of 10-59 ml/min/1.73 m^2, were coded as having CKD.[15] Another study linked under-recognition and under-reporting to limited physician awareness of CKD risk factors. While physicians are generally aware that diabetes and hypertension are risk factors for CKD, less is known about other indicators, such as family history and race/ethnicity. African Americans are almost four times as likely to develop CKD when compared to Whites, progress faster to ESRD, and generally have poorer outcomes. Plantiga et al surveyed physicians practicing in primarily African American communities. Among respondents, 34% were unaware that family history of kidney disease is a risk factor for CKD, and 22% were unaware that kidney disease disproportionately affects African Americans[2], the population they were treating. Hispanics are almost two times as likely to develop kidney disease when compared to Whites; more significantly, they are a high-risk population for diabetes, the leading cause of CKD.

Raising awareness of CKD among patients, providers and the general public is the first step to addressing the burden of kidney disease. In fact, improving awareness of chronic kidney disease is identified as a priority in Healthy People 2020.[16] Awareness, detection, and management of kidney disease are closely linked to physician knowledge and application of clinical practice guidelines for CKD.

Limited Use of Physician Practice Guidelines for CKD

Historically, clinical guidelines for kidney disease focused on treatment methods for dialysis patients. When the National Kidney Foundation released the Kidney Disease Outcomes Quality Initiative (KDOQI) Clinical Practice Guidelines for Chronic Kidney Disease: Evaluation, Classification, and Stratification in 2002 and subsequent updates, more emphasis was placed on prevention and detection of kidney disease in its earlier stages, shifting more responsibility to the PCP. Surveys have shown limited use of the KDOQI or Kidney Disease Improving Global Outcomes (KDIGO) guidelines, however, due to: lack of familiarity; perceived complexity and ambiguity; and the need for guidance and education on their use.[2,17,18] Physicians were more familiar with guidelines for hypertension and diabetes, many suggesting that they were adequate for diagnosing and treating CKD. Most physicians recognized the importance of treating complications of CKD, especially CVD, hypertension, diabetes, and lipid disorders. Less was known about diagnosing and treating for anemia, bone disease, and metabolic disorders. Uncertainty of when to refer patients to a nephrologist and the PCP's role once the referral is

made were noted as concerns. Most expressed the need for simplification of clinical practice guidelines for kidney disease in light of the numerous disease specific guidelines that exist.[19,20]

CKD is an Interactive Disease

Lack of awareness and focus on CKD among providers and patients may, in part, be due to the overshadowing of kidney disease by other chronic diseases. Historically, kidney disease has been marginalized as a by-product of diabetes or hypertension and referred to nephrology for management and treatment.[21] While more than 70% of incident cases of ESRD are secondary to diabetes and hypertension, CKD itself is a risk multiplier for hypertension, CVD and other chronic conditions.[9,21] In fact, more kidney patients die prematurely from CVD events than reach ESRD.[3,9,20]

Any assessment of the CKD burden must be viewed within the context of its relationship with other chronic diseases and conditions. CKD, CVD, diabetes and hypertension share interactive relationships, where each may be caused by or a complication of one or all of the respective diseases. This is partly explained by the many risk factors and clinical markers they share, such as obesity, smoking, poor diet, physical inactivity, family history, advancing age, race/ethnicity, metabolic syndrome, impaired glucose tolerance, abnormal blood lipids, decreased eGFR and albuminuria. As a result, they often exist together, increasing the severity of disease, presenting more complex clinical management, and multiplying healthcare costs. While this poses challenges in diagnosis, it also presents opportunities for treatment. Evidence-based treatments for slowing progression of CKD, for example, also reduce complications from CVD, diabetes and hypertension.[1,3,20,21,22] This connection offers opportunities to prevent, screen, diagnose and treat all within a common structure.

Acute Kidney Injury

Acute kidney injury (AKI) has emerged as a serious public health threat associated with severe morbidity and mortality. It affects 13 million people worldwide annually,[23] and is responsible for two million deaths each year.[24] AKI is largely seen in hospitalized patients, where 45% of patients admitted to the ICU and 20% of hospitalized patients are affected.[25]

AKI is a clinical syndrome characterized by an abrupt decline in kidney function due to one or more of the following:

- Lack of blood flow to the kidneys
- Direct damage to the kidneys
- Exposure to nephrotoxic agents
- Inflammation in the kidneys
- Blockage of urine from kidneys

While AKI often occurs in connection to another disease or condition, such as CKD, diabetes or heart disease, it can also occur in people with normally functioning kidneys. Causes are classified as prerenal, intrinsic, and postrenal. Prerenal AKI may result from systemic causes or

traits making the patient more susceptible to injury, or from exposures that harm the kidneys. For example:

Susceptibility	Exposure[26]
Chronic kidney disease	Sepsis
Diabetes	Critical illness
Heart disease	Circulatory shock
Other chronic diseases (lung, liver)	Burns
Cancer	Trauma
Dehydration	Cardiac surgery
Anemia	Major non-cardiac surgery
Advanced age	Nephrotoxic drugs
Female gender	Iodine contrast agents
African American race	Poisonous plants

Intrinsic AKI is caused by an underlying condition within the kidneys, such as glomerulonephritis, acute tubular necrosis, acute interstitial nephritis, or vascular disease. Postrenal AKI occurs when there is a blockage in the urinary tract, causing fluids and waste to build up in the kidneys. This may be due to kidney stones, an enlarged prostate, blood clots, or colon, prostate or cervical cancer.

AKI can range from a minor loss of kidney function to complete kidney failure. It develops rapidly – over a few hours or days. Early detection and treatment are critical to: (1) promptly identify reversible conditions, and (2) prevent serious adverse outcomes. If not caught early, AKI may worsen existing illnesses, and can quickly lead to kidney failure or even death.

Summary and Call to Action

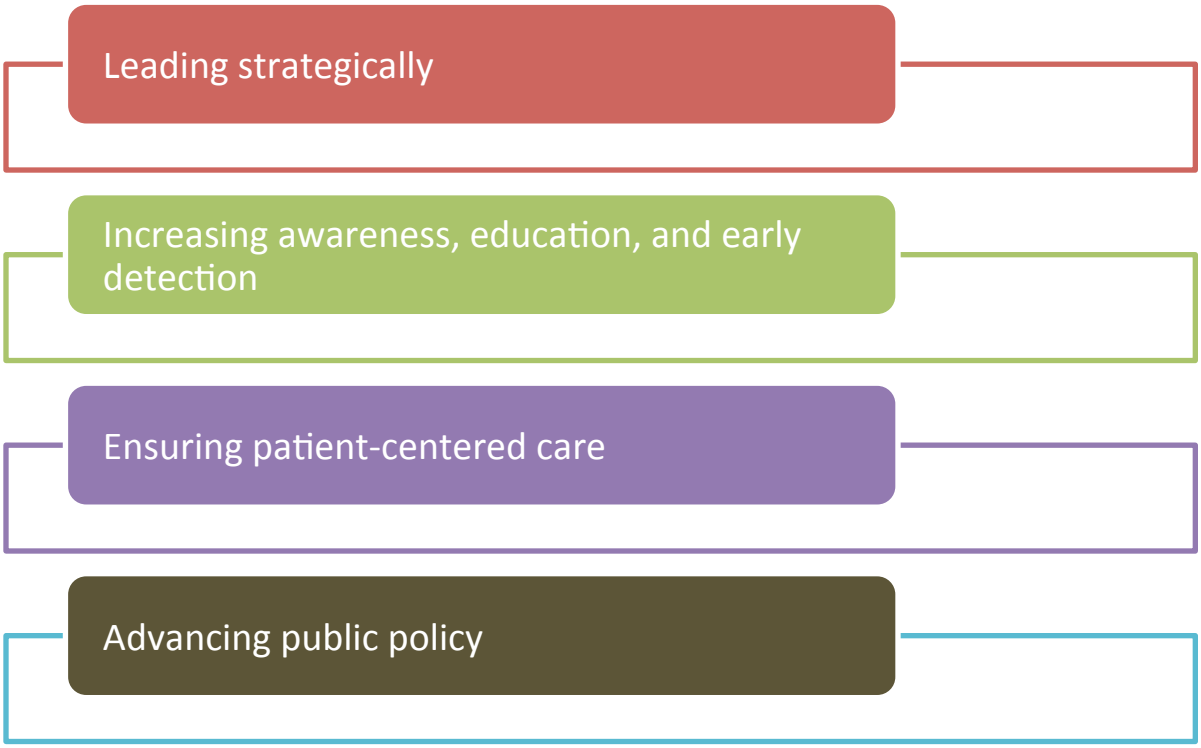
CKD and AKI are highly prevalent diseases associated with poor outcomes and excessive healthcare costs. Both share clinical interactions with CVD, diabetes and hypertension, where each predisposes or results from the other. CKD and AKI are common, harmful and expensive, but can be prevented and controlled. Simple tests can quickly detect at-risk patients. Requisite guidelines and tools for diagnosis, treatment and management of kidney disease are in place. All that is needed is a concerted, strategic, and multisector effort to improve the understanding, detection, and management of kidney disease among at-risk patients, healthcare providers, and the public that will result in:

- Increased awareness of kidney disease, its risk factors, and strategies for prevention and control;
- Early screening and detection of CKD and AKI to prevent/delay disease progression and avoid complications;
- Improved knowledge and use of evidence-based clinical practice guidelines;
- Increased quality of care for kidney patients; and
- Decreased incidence of CKD, ESRD, and AKI.

A Blueprint for Action

Introduction

Addressing Chronic Kidney Disease in Texas: A Blueprint for Action is an evidence-based plan designed to improve the understanding, detection, and management of kidney disease in Texas. Through its four priority areas, the blueprint outlines specific aims and strategies to build and implement a sustainable public health approach to reduce the burden of kidney disease in Texas.



A Blueprint for Action

Priority: Leading Strategically – the Kidney Alliance of Texas (KAT)

Collaboration gives us the power to accomplish that which we cannot achieve alone.

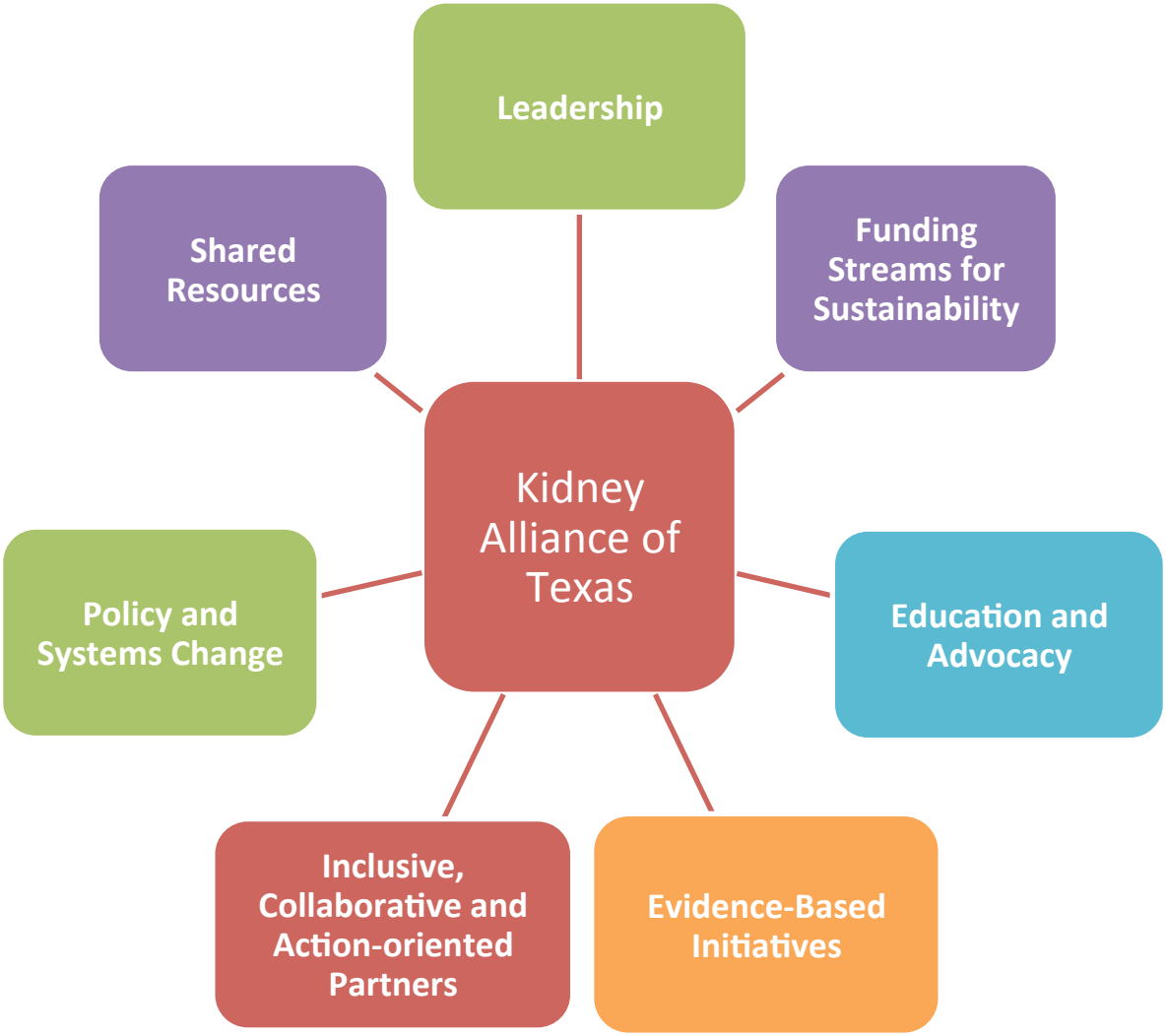
Implementing the *Blueprint for Action* requires a collaborative partnership among clinicians, public health, and community sectors to effectively build and sustain programs to prevent and reduce kidney disease in Texas. The Texas Kidney Disease Education Program (TKDEP), along with its network of kidney stakeholders, formed a statewide alliance in 2014. Individuals representing leading kidney organizations, healthcare professions, public health, academia, advocacy, caregivers, and patients have come together under a shared vision to improve the understanding, detection, and management of kidney disease.

Aims:

1. Provide leadership, influence, and expertise to inform priority programs, policies, and strategies to improve health outcomes for kidney patients.
2. Deliver evidence-driven programs and initiatives to prevent and reduce complications of kidney disease.
3. Grow the Alliance and secure funding to assure a well-resourced, inclusive and sustained kidney disease program in Texas.

Strategies:

1. Work with KAT members to support/promote/deliver/expand established partner programs.
2. Collaborate with KAT members to create and deliver an innovative project(s) that will result in increased quality of care for kidney patients.
3. Strategically recruit members to implement projects.
4. Maintain communication and accountability through meetings and online correspondence.


Leadership
Shared Resources
Funding Streams for Sustainability
Kidney Alliance of Texas
Policy and Systems Change
Education and Advocacy
Inclusive, Collaborative and Action-oriented Partners
Evidence-Based Initiatives

A Blueprint for Action

Priority: Increasing Awareness, Education, and Early Detection

The National Kidney Foundation estimates that 73 million adults – one in three – are currently at risk for kidney disease because they have diabetes, hypertension, or a family history of kidney failure.[27] Most of these people do not know they are at risk.

Raising awareness of kidney disease among patients, providers and the general public is the first step to addressing the burden of kidney disease in Texas. When patients have access to actionable, culturally appropriate and easy-to-understand health information and resources, they are empowered to make healthier choices. Similarly, when healthcare providers are knowledgeable about clinical practice guidelines and provided with user-friendly, step-by-step tools and guidance, they are more apt to follow the recommendations.

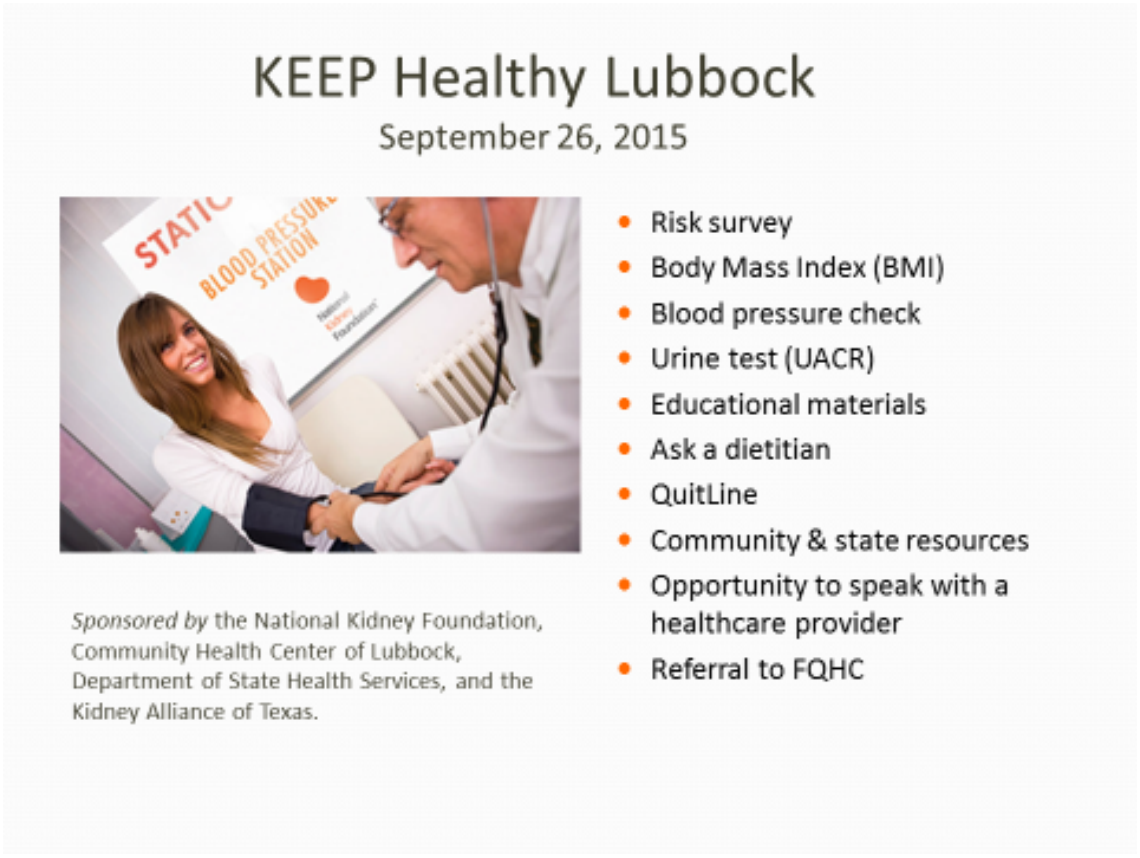
Aims:

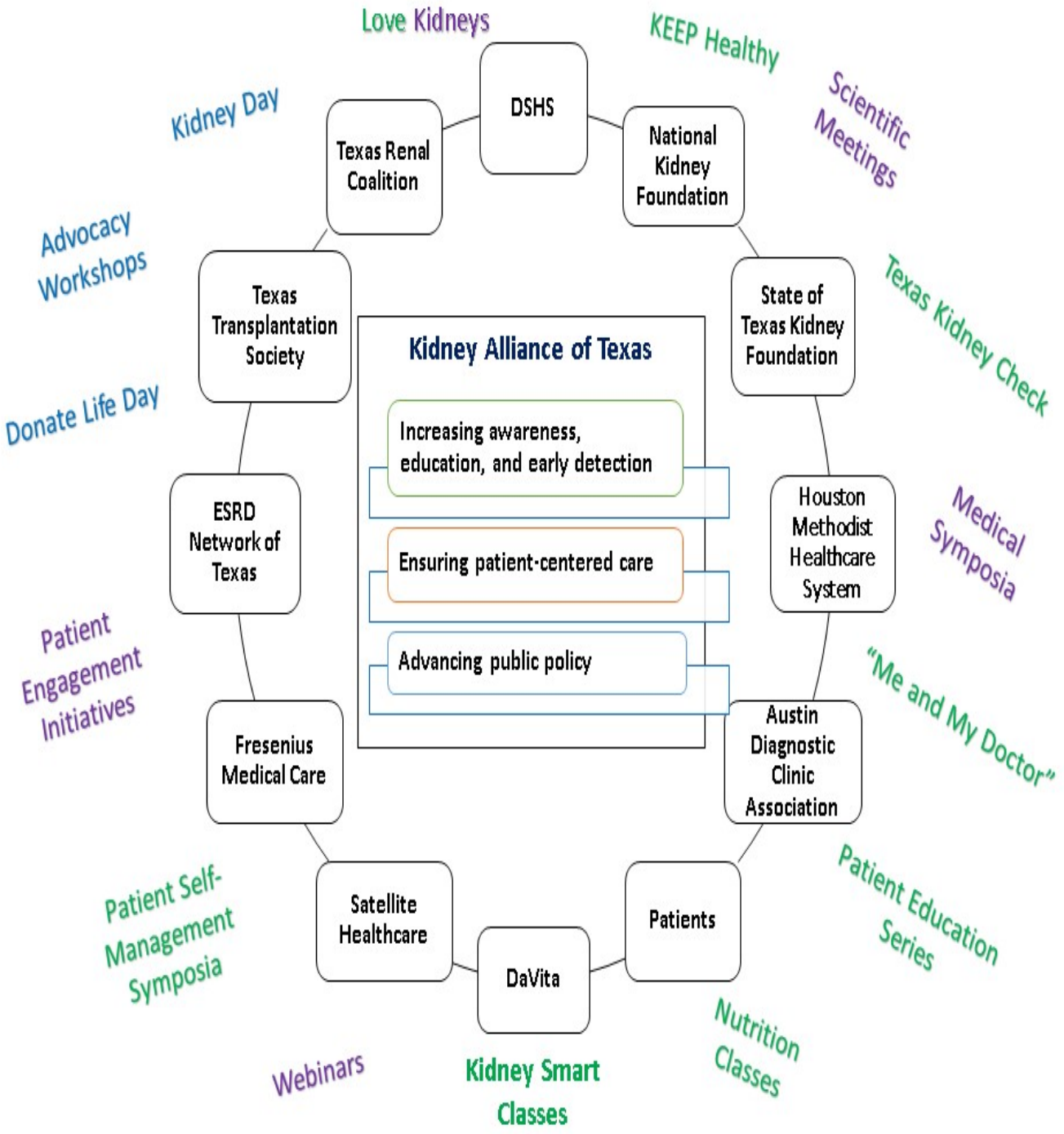
1. Increase awareness of kidney disease, its risk factors, and strategies for prevention and control.
2. Ensure a strategic focus on communities and populations at greatest risk of kidney disease to address health disparities.
3. Educate primary care physicians, nurses, specialists, and allied health workers on evidence-based screening protocols for patients at risk of CKD and AKI.
4. Increase the number of at-risk patients who are screened for kidney disease using urine albumin to creatinine ratio (ACR) and eGFR.
5. Increase the number of hospitalized patients who are screened for AKI using serum creatinine (SCr) and urine output measures.

Strategies:

1. Implement Love Kidneys, a multi-media campaign targeted to patients who are at risk for kidney disease, healthcare professionals, and the general public.
2. Collaborate with KAT partners on community screening and education events.
3. Work with other Department of State Health Services chronic disease programs to include kidney disease education within their activities.
4. Offer “tag-on” kidney speakers for upcoming medical and allied health professional conferences.

Media	Description	Audience
Television/cable (English and Spanish)	60 and 30 second PSAs	Patients/General Public
Radio (English and Spanish)	60 second spot	Patients/General Public
Digital	Banner ads on Google Search, Batanga, Digilant	Patients/General Public Providers
Social	Facebook, Twitter, apps	Patients/General Public
Print	Ad in Texas Medicine and Texas Family Physician	Providers
↓	↓	↓
LoveKidneys.com	Comprehensive website	Patients/General Public Providers



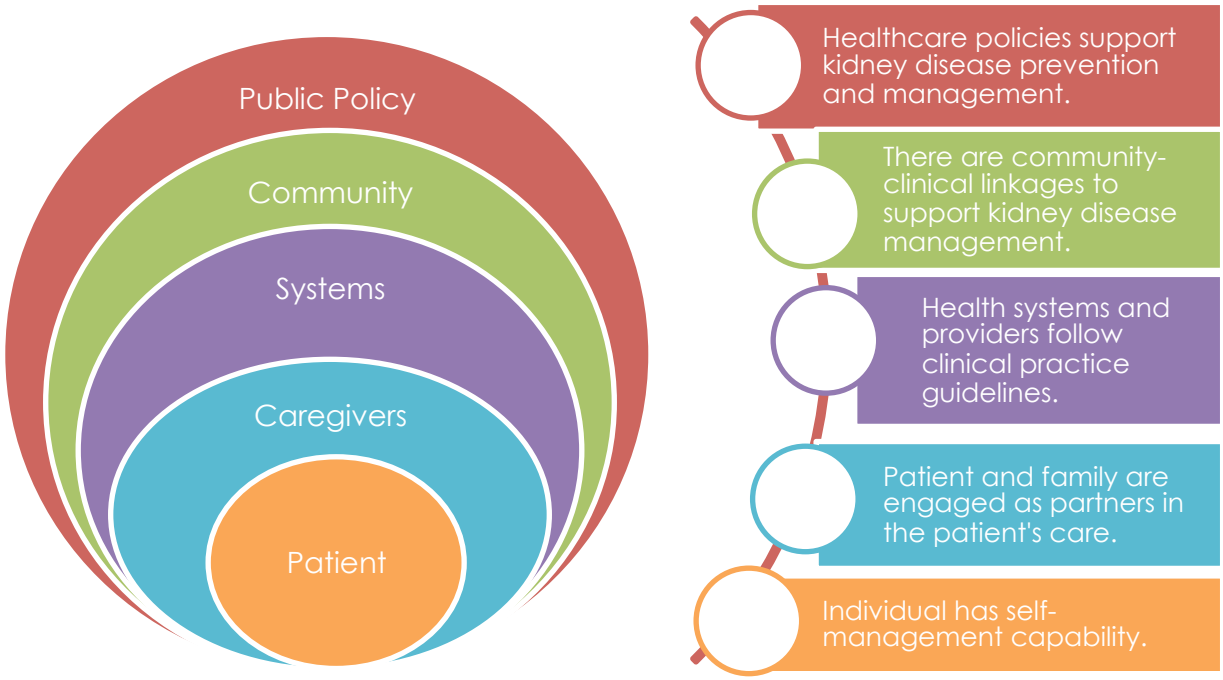

Love Kidneys
KEEP Healthy
Kidney Day
Scientific Meetings
DSHS
Texas Renal Coalition
National Kidney Foundation
Advocacy Workshops
Texas Kidney Check
Texas Transplantation Society
State of Texas Kidney Foundation
Kidney Alliance of Texas
Donate Life Day
Increasing awareness, education, and early detection
ESRD Network of Texas
Houston Methodist Healthcare System
Medical Symposia
Ensuring patient-centered care
Patient Engagement Initiatives
Advancing public policy
"Me and My Doctor"
Fresenius Medical Care
Austin Diagnostic Clinic Association
Patient Education Series
Patient Self-Management Symposia
Satellite Healthcare
Patients
DaVita
Nutrition Classes
Webinars
Kidney Smart Classes

A Blueprint for Action

Priority: Ensuring Patient-Centered Care

Improving patient health outcomes, health care service delivery, access to care and population health is a shared responsibility. Patients and caregivers, healthcare providers and systems, public health and community organizations, and public leaders and champions all play roles in improving health care.

Adapted Social Ecological Model



Recognizing that individual behavior is influenced by a range of personal, relational and social factors, the *Blueprint for Action* recommends that prevention and control strategies involve interventions that reduce risk factors and enhance protective factors across all levels of the social ecological model. The adapted model above illustrates the levels of society, which are interactive and reinforcing sources of influence on patient care. All bear responsibility and are mutually supporting.

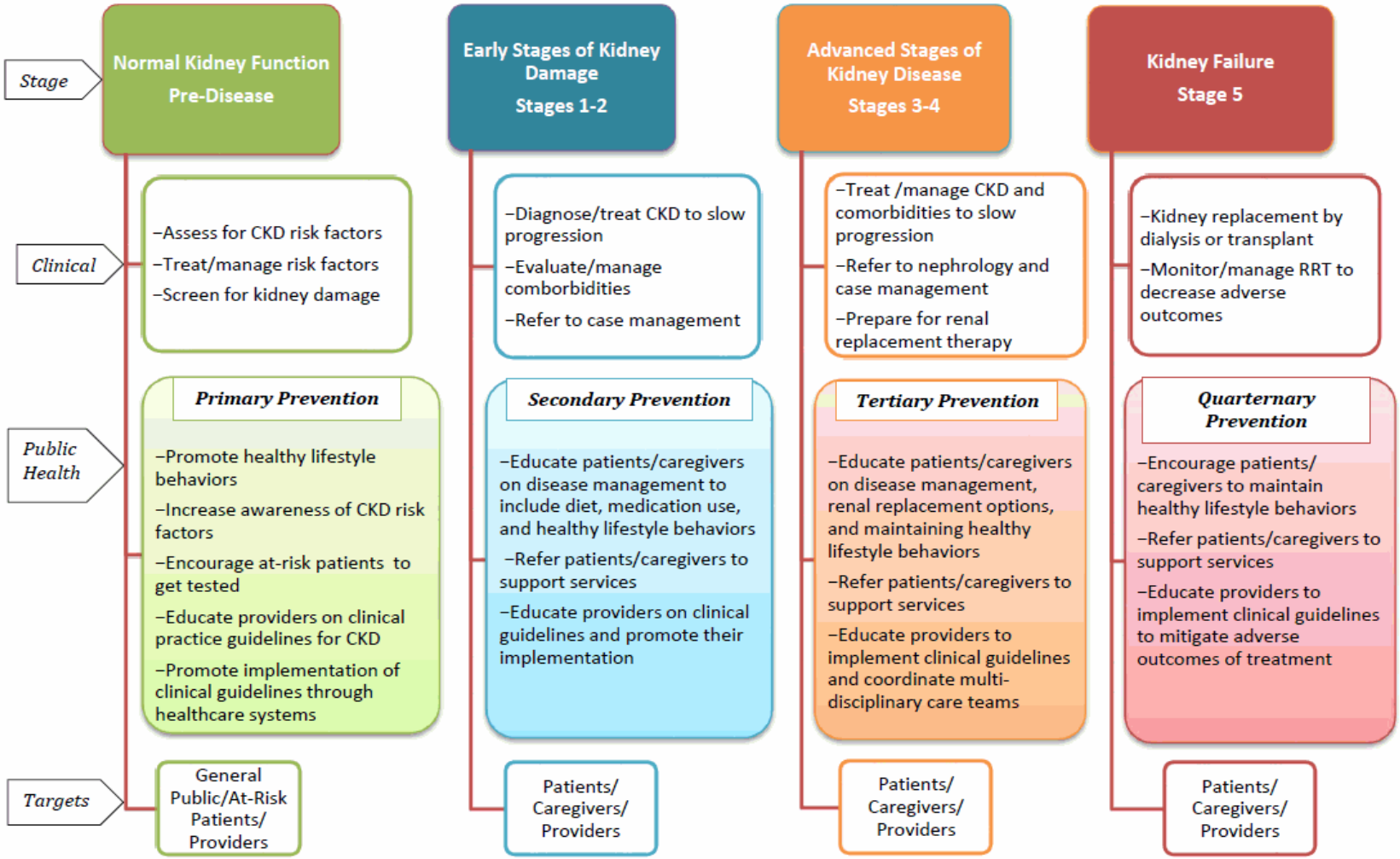
Aims:

1. Educate patients and caregivers at multiple points of care (CKD stages) to result in effective disease management.
2. Increase knowledge and use of evidence-based clinical practice guidelines for the detection, diagnosis, treatment and management of CKD and AKI.
3. Advocate for policy and systems changes to assure access to quality healthcare.

Strategies:

1. Promote clinical and community-based disease management support programs to kidney patients through healthcare systems and websites.
2. Develop and promote simple, user-friendly algorithms and clinical pathways to facilitate healthcare provider use of evidence-based guidelines for CKD and AKI.
3. Conduct systems change quality improvement project(s) tied to application of clinical guidelines and report outcomes.

Kidney Disease Care Model
Clinical and Public Health Strategies Per Stage



A Blueprint for Action

Priority: Advancing Public Policy Affecting Kidney Disease

The Kidney Alliance of Texas (KAT) and numerous kidney health advocates are committed to assuring that all Texans with kidney disease or those at risk receive quality care, and have access to information about preventing and managing the disease. KAT partners believe that all healthcare professionals who treat people with kidney disease or those at risk should have access to and utilize clinical practice guidelines for the prevention, detection, diagnosis, management and treatment of kidney disease. As the state's leading kidney patient advocacy organization, the Texas Renal Coalition (TRC) will take the lead on this initiative. The TRC has provided leadership in advancing public policy for individuals and families affected by kidney disease for 20 years. By advising policymakers, the TRC and KAT aim to improve access to quality care and reduce the costs associated with treatment.

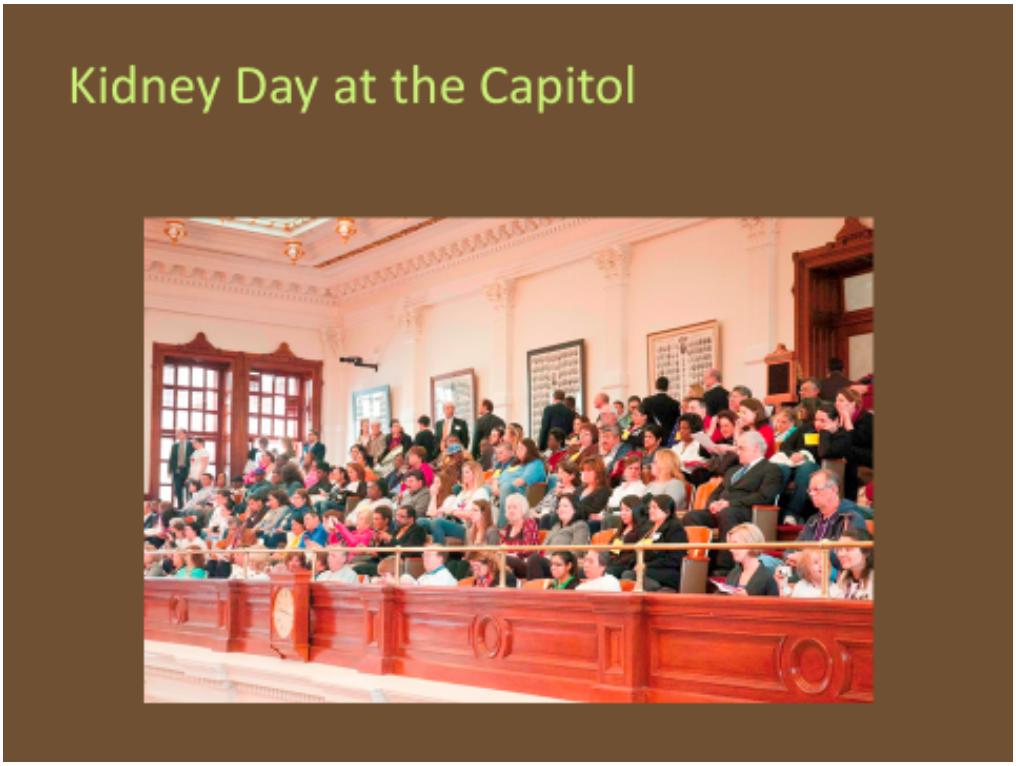
Aims:

1. Support public policy, education, and legislation to protect the health, civil rights, and safety of people with kidney disease.
2. Educate policymakers about kidney disease, its complications, and needed actions to assure access to quality healthcare.
3. Educate and empower patients to be their own best health advocates.
4. Advocate that public and private insurers cover preventive care, disease management education, and necessary treatment.
5. Support kidney disease research and surveillance activities in Texas.

Strategies:

1. Solicit input from patients, caregivers, and healthcare providers on priority needs related to access to quality care.
2. Keep track of policies related to administration of proper medications and evidence-based medical treatment, state and insurer funding for programs and services, and promoting healthy and safe environments for kidney patients.
3. Develop and prioritize a legislative agenda for each biennium based on priority needs of kidney patients.
4. Advocate for legislation and funding for initiatives to prevent kidney disease, and for education programs to help patients manage their condition and participate as active members of their healthcare team.

5. Educate policymakers about kidney disease and needed actions through dissemination of materials that illustrate the burden in Texas, personal stories posted on websites and social media, and through in-person meetings.
6. Provide patient forums, including Advocacy Workshops and Kidney Day at the Capitol, that enable people with kidney disease to testify and advocate.



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